U.S. Ports and Waterways Are "Vulnerable and Valuable" — Deepwater Will Mitigate Risk in the Maritime Domain

by Captain Gordon I. Peterson, USN (Ret.)

Describing the U.S. marine transportation system's ports and waterways as both a "vulnerable and valuable" dimension of the global war on terrorism, Coast Guard Commandant Admiral Thomas H. Collins said recently that there is a "great sense of urgency" associated with Coast Guard efforts to bolster U.S. maritime homeland security through refined practices, an enhanced security regime, improved maritime domain awareness, and better operational capabilities.

Collins, participating on a sea-service panel at a forum sponsored by the Naval Institute and the Marine Corps Association on September 7 in Arlington, VA, said the Coast Guard has adopted a multifaceted approach to mitigate risk in the maritime domain—a massive distribution network for 95 percent of U.S. commerce. Key are ongoing efforts, in close collaboration with the U.S. Navy and other joint partners, to improve maritime domain awareness.

The value and vulnerabilities of the U.S. marine transportation system are documented in the *Final Report of the National Commission on Terrorist Attacks Upon the United States*, released in July and popularly known as *The 9/11 Commission Report*. Beyond its comprehensive investigation of the facts and circumstances relating to the terrorist attacks against the U.S. homeland of September 11, 2001, the report's recommendations for a global strategy to deal with the threat of Islamist terrorism highlight the need to improve maritime security.

"Hard choices must be made in allocating limited resources," the commissioners reported. They called for a forward-looking strategic plan systematically analyzing risks, costs, and benefits — with resources allocated to the greatest transportation security risks in a cost-effective way. "Opportunities to do harm are as great, or greater, in maritime or surface transportation," the report noted, than in the aviation sector.

The development of an appropriate and more effective security regime, with national and international dimensions, was advanced by this year's implementation of the Maritime Transportation Security Act of 2002 and agreement by 152 nations to strengthen international security regulations through the adoption of a new protocol under the International Maritime Organization.

Improved sharing of security, safety, commercial, and law-enforcement information plays an important role in the creation of an enhanced global maritime domain awareness that will allow nations to create layered, multi-agency, integrated maritime security defenses to combat the threats of terrorists and trans-national criminals. Improved operational capabilities, acquired largely through the Integrated Deepwater System modernization and recapitalization program, also figure significantly in efforts to improve the Coast Guard's ability to implement its strategy for maritime homeland security.

Senior uniformed leaders of the U.S. sea services recently participated in a panel discussion on the Global War on Terrorism sponsored by the U.S. Naval Institute and the Marine Corps Association. Shown here, from left, are Gen. Michael W. Hagee, Commandant of the Marine Corps; Adm. Thomas H. Collins, Commandant of the Coast Guard; and Adm. Vern Clark, Chief of Naval Operations. Key to the Coast Guard's ability to increase maritime domain awareness and reduce risk is to build out the right capabilities, said Adm. Collins. The Deepwater Program, a system-of-system approach to the modernization and recapitalization of the Coast Guard's aging and obsolete inventory of aircraft, cutters, and supporting systems, will play a significant role. (U.S. Navy Photo by PHC John Bivera)

Closing the Gaps

Efforts to improve awareness of events in the maritime domain include the development of a new national architecture. "The highest return on our investment to mitigate risk is maritime domain awareness," said Collins. "We must be prepared for consequence management, but that is a terrible place to be. There is a great sense of urgency to close the gaps," he said.

"The key to success is to build out the right capabilities, and we're doing it very aggressively," said Collins. The Deepwater Program, a system-of-system approach to the modernization and recapitalization of the Coast Guard's aging and obsolete inventory of aircraft, cutters, and supporting systems, will play a significant role in this regard.

Deepwater's three new classes of more capable cutters and associated small boats, manned and unmanned aircraft, integrated logistics, and an improved system for C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) will result in a vastly more capable, reliable, and effective Coast Guard — a force better able to safeguard maritime homeland security in U.S. ports, coastal waters, and the open ocean.

The Program's critical relationship to the U.S. Coast Guard's future ability to deliver improved levels of maritime homeland security was highlighted during a congressional hearing on August 25 in Washington, DC.

"Deepwater will greatly improve the Coast Guard's maritime presence starting at America's ports, waterways, and coasts and extending to seaward to wherever the Coast Guard needs to be present or to take appropriate maritime action," said Rear Admiral Larry Hereth, director of port security in the Marine Safety, Security, and Environmental Protection Directorate at U.S. Coast Guard Headquarters.

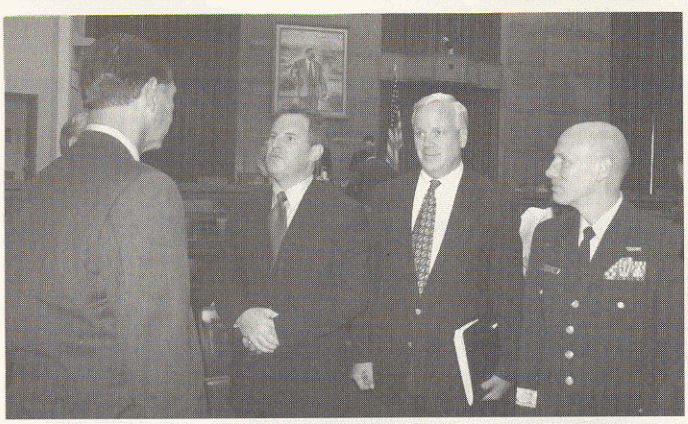
Hereth, joined by James F. Sloan, the Coast Guard's assistant commandant for intelligence, testified before the U.S. House of Representative's Subcommittee on Coast Guard and Maritime Transportation during a hearing on the 9/11 Commission Report and maritime transportation security. "Deepwater provides the capability to identify, interdict, board, and, where warranted, seize vessels or people engaged in illegal/terrorist activity at sea or on the ports, waterways, or coasts of America," he said.

Rep. Frank LoBiondo (R-N.J.), chairman of the subcommittee, called the hearing to review the findings and recommendations of the 9/11 Commission and to examine the current state of security of the U.S. marine transportation system.

"The 9/11 Commission's report alludes to the fact that ports and maritime transportation industries may be particularly vulnerable to a future terrorist attack," LoBiondo said. "In order to ensure security at our ports and along our coasts, we must focus our attention on improving the Coast Guard's capabilities to prevent future attacks. The Coast Guard has been and continues to be the lead agency responsible for protecting homeland security along this nation's shores."

John Lehman, a former Secretary of the Navy and 9/11 Commission member, also testified before the subcommittee, noting that the U.S. marine transportation network was "almost an irresistible target" for international terrorists. In addition to the need for an overarching plan to deal with today's threat, Lehman said that resources must be increased to provide improved levels of maritime security.

Another witness at the hearing, retired Coast Guard Commander Stephen E. Flynn, a senior fellow for national security studies at the Council on Foreign Relations in New York, said that the Coast Guard's fleet of cutters and aircraft are being pushed "to the breaking point and beyond" to meet the combined imperatives of its traditional missions and new homeland-security responsibilities.



During a congressional hearing Aug. 25 on the 9/11 Commission Report and the U.S. marine transportation system, Rear Adm. Larry Hereth (right), Director of Port Security in the Marine Safety, Security, and Environmental Protection Directorate at U.S. Coast Guard Headquarters, described a wide range of initiatives the U.S. Coast Guard has implemented since 9/11 to improve U.S. maritime security. He also said that the Deepwater Program will greatly improve the Coast Guard's maritime presence. Shown here with Hereth following the hearing is, from left, Rep. Frank LoBiondo, chairman of the U.S. House of Representative's Subcommittee on Coast Guard and Maritime Transportation; Stephen E. Flynn, Council on Foreign Relations; and Chris Koch, director, World Shipping Council. (USCG Photo by Gordon I. Peterson)

A System of Systems

The Integrated Deepwater System's recapitalization of the Coast Guard's aging cutters, aircraft, and supporting systems is responsive to these pervasive challenges in many ways — and at an affordable cost.

"When Deepwater is complete," said Coast Guard Commandant Adm. Thomas H. Collins earlier this year, "our cutters and aircraft will no longer operate as independent platforms with only limited awareness of what surrounds them in the maritime domain. Instead, they will have the benefit of receiving information from a wide array of mission-capable platforms and sensors — enabling them to share a common operating picture as part of a network-centric force operating in tandem with other cutters, boats, and both manned aircraft and unmanned aerial vehicles."

The Deepwater system of systems includes platform systems (aircraft, cutters, and patrol boats), subsystems (radars, radios, satellite communications, etc.), as well as individual components and assets (people, hardware, software, shore facilities). All elements combine to generate interoperable capabilities needed to produce system-wide results.

The multiyear, multibillion-dollar program, launched two years ago with a contract awarded to Integrated Coast Guard Systems (ICGS, a joint venture between Lockheed Martin and Northrop Grumman), has gained added momentum in recent months. In June, the Coast Guard awarded contracts for two of the Deepwater Program's three new cutters. [*Ed. Note: See* The Bulletin, *August 2004, p. 36.*] In August, the first re-engined HH-65 Dolphin helicopter successfully completed initial test flights. Construction of the first Maritime Security Cutter, Large (formerly the National Security Cutter) commenced Sept. 9 at Northrop Grumman Ship Systems Pascagoula, Miss., shipyard.

The first HH-65 helicopter to re-engined under the Deepwater Program, shown here without its new paint, conducted initial flight tests in August. A team of personnel from the Coast Guard, Integrated Coast Guard Systesm, Eurocopter, and Turbomeca are re-engining the aircraft at the Coast Guard's Aircraft Repair & Supply Center (AR&SC) in Elizabeth City, NC. The new engines provide greater power, better performance, and higher reliability. (Integrated Coast Guard Systems Photo)

Although originally conceived with "deepwater" missions in mind extending more than 50 nautical miles from U.S. coastlines, Deepwater's mobile multimission platforms are ideally suited for the wide range of homeland security operations encountered in ports, waterways, and coastal areas, Coast Guard officials say.

The design of Deepwater's cutters, for example, will provide better sea keeping and higher sustained transit speeds, greater endurance and range, and the ability for launch and recovery, in higher sea states, of improved small boats, helicopters, and unmanned aerial vehicles — key attributes in enabling the Coast Guard to implement increased security responsibilities, including jurisdiction over foreign-flagged ships, more effectively. Deepwater's more capable cutters will be important players in the screening and targeting of vessels before they arrive in U.S. waters, onboard verification through boardings, and, if necessary, enforcement-control actions — more quickly, safely, and reliably.

Deepwater's total-aviation solution of manned and unmanned aircraft, at completion, will deliver substantially more flight hours than today's legacy systems and provide improved airborne use of force and vertical-insertion capabilities. These improvements will be of inestimable value to operational commanders in remedying today's tremendous burden of balancing the mismatch between inadequate resources to growing mission requirements. The inventory of HH-60J and HH-65 helicopters will be progressively modernized with new avionics and system upgrades. New maritime patrol aircraft, helicopters, and vertical takeoff-and-landing unmanned aerial vehicles will significantly improve coastal- and surface-surveillance capabilities.

In the context of maritime homeland security, particularly in ports and coastal areas, one of Deepwater's most significant capability enhancements will be its robust C4ISR system. Deepwater's C4ISR is a fundamental building block in improving the Coast Guard's ability to maintain maritime domain awareness (MDA) focused on meeting the needs of decision makers engaged in operations at sea, ashore, and in the air. The network-centric system is being designed to ensure the Coast Guard will possess and maintain seamless interoperability with the forces and agencies of the Department of Homeland Security, the Department of Defense, and other federal and regional agencies — a true force multiplier in the fullest sense.

When Deepwater is fully implemented, cutters and aircraft will have improved systems to receive information from a wide array of platforms and sensors. They will share a common operational picture as part of

a network-centric force operating in tandem with other cutters, boats, and both manned aircraft and unmanned aerial vehicles—as well as with the U.S. Navy, an important factor in executing the shared responsibilities common to the intersection of the homeland security and homeland defense mission areas.

"The Coast Guard urgently needs Deepwater's improved platforms and systems if we are to have the means to develop, fuse, and assess all manner of information from a broad range of sources," said Vice Adm. Thomas J. Barrett, the Coast Guard vice commandant at the time, in April. "Maritime power is about awareness, leveraging, and synthesizing large amounts of information and specific data from many disparate sources to gain knowledge of the entire maritime. If knowledge is power, and MDA provides us the requisite knowledge of the maritime, then MDA is the key to maritime power — and Deepwater … provides one of the important means to that end."

Improved Capabilities Needed

The Deepwater Program was originally designed in the late 1990s to address the well-recognized challenge of an increasingly aging and obsolete inventory of cutters and aircraft. Since 9/11, however, the Coast Guard's mission demands, threats, and operational priorities have changed considerably — including a major expansion of homeland security requirements and expeditionary deployments overseas.

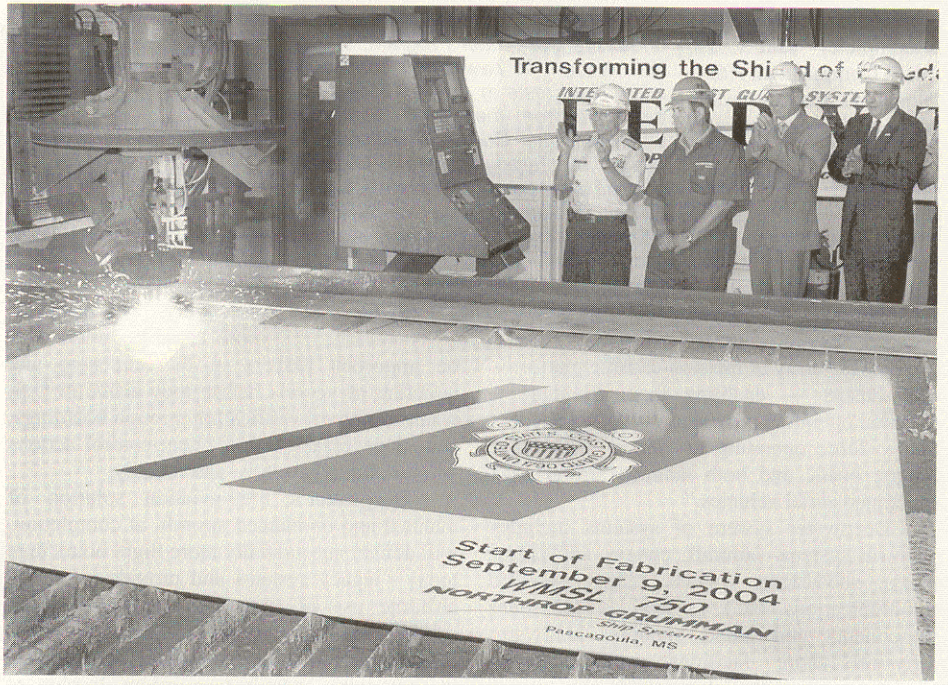
A comprehensive analysis of the Coast Guard's post-9/11 operational capability and capacity gaps in this new national-security environment documents a compelling need to revise the Deepwater implementation plan to address these circumstances. The Coast Guard's performance-gap analysis, initiated in July 2003, documents that attaining additional system-wide capabilities is critical to the Coast Guard's ability to perform its expanded homeland security mission while sustaining operational readiness and excellence in all of its military, multimission, and maritime responsibilities.

A revised implementation plan has been forwarded to the Department of Homeland Security for review as part of the U.S. federal government's fiscal year 2006 budget process. The Deepwater Program has received strong support from the Department of Homeland Security, the Bush administration, and the U.S. Congress.

"We must move forward to execute the program aggressively so that its modern, more capable platforms and systems are delivered with an appropriate sense of urgency," Adm. Collins told students and faculty at the Naval War College in Newport, R.I., in January.

There is a growing consensus that the Coast Guard's mission demands and performance since 9/11 fully justify the need to adjust the Deepwater acquisition program to accommodate current operational realities and mission requirements.

Retired U.S. Navy Capt. Gordon I. Peterson a technical director for the Anteon Corporation's Center for Strategic Studies and Operations.



With Northrop Grumman Ship Systems burner specialist Paul Bosarge assisting, second from left, (l-r) Rear Adm. Patrick M. Stillman, program executive officer for the Coast Guard's Integrated Deepwater System; Dr. Philip A. Dur, president, Northrop Grumman Ship Systems; and Fred Moosally, president, Lockheed Martin Maritime Systems and Sensors, applaud the first cut of steel for the Maritime Security Cutter, Large (WMSL 750). The start of construction in September represents the first major multimission cutter to be introduced to the Coast Guard in the past 25 years. (Northrop Grumman Ship Systems photo)